1. (Original) An apparatus to compensate for voltage and temperature variations on an integrated circuit, comprising:

a voltage sensor having a digital voltage output;

a temperature sensor having a digital temperature output;

a register coupled to the voltage sensor and the temperature sensor, the register adapted to concatenate the digital voltage output and the temperature output into an address output; and

a memory device having an address input coupled to the address output of the register, the memory device being adapted to store one or more corrective vectors.

2. (Original) The apparatus of claim 1, further comprising a wake-up oscillator coupled to the memory device, the wake-up oscillator periodically enables the memory device to output a corrective vector.

3. (Currently Amended) The apparatus of claim 2 ~~1~~, wherein the wake-up oscillator is a low-power oscillator.

4. (Currently Amended)The apparatus of claim 2 ~~1~~, wherein the wake-up oscillator is a resistor-capacitor (RC) oscillator.

5. (Original) The apparatus of claim 1, wherein adjustment values are written into the memory during initialization.

6. (Original) The apparatus of claim 1, further comprising a ring oscillator coupled to the output of the memory device.

7. (Original) The apparatus of claim 6, wherein the memory device generates an adjustment vector based on the current voltage and temperature and wherein the adjustment vector is applied to the ring oscillator.

8. (Original) The apparatus of claim 7, wherein the adjustment vector selects the ring frequency; lengthening or shortening the ring delay to maintain the desired operating point.

9. (Original) The apparatus of claim 7, wherein the adjustment vectors are determined by chip testing and characterization.

10. (Original) The apparatus of claim 7, further comprising:

a. a processor;

b. a multiplexor having an input coupled to the processor and a second input coupled to the register and an output coupled to the memory device, the multiplexor allowing the processor to download the adjustment vectors into the memory device.

11. (Currently Amended) A method for dynamically adjusting for temperature and voltage variations on an integrated circuit, comprising:

periodically sensing the voltage and temperature values;

concatenating the voltage and the temperature values into an address output;

applying the address output to a memory device, the memory device being adapted to store one or more corrective vectors; and

dynamically making adjustments in clock frequency based on the voltage and temperature values.

12. (Original) The method of claim 11, further comprising combining the voltage and temperature values into a digital word.

13. (Original) The method of claim 12, further comprising storing the temperature value in a first register.

14. (Original) The method of claim 13, further comprising storing the voltage value in a second register.

15. (Original) The method of claim 14, further comprising merging the first and second registers to represent a concatenated address.

16. (Original) The method of claim 15, further comprising applying the concatenated address to the address of a memory to retrieve a corrective value from a corrective table.

17. (Original) The method of claim 16, further comprising generating the corrective table by characterizing the integrated circuit.

18. (Original) The method of claim 17, wherein the characterizing step further comprises varying the voltage and temperature over a predetermined range.

19. (Original) The method of claim 11, further comprising applying a corrective vector to a ring oscillator.

20. (Original) The method of claim 11, wherein the periodic sensing further comprises receiving a wake-up signal from a low power wake-up oscillator to perform the calibration.